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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

YANG, NELSON C

ART UNIT PAPER NUMBER

1641

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/616,151

### Applicant(s)

ISOBE ET AL.

### Examiner

Nelson Yang

### Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/22/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a translation of the foreign application should be submitted under 37 CFR 1.55 in reply to this action.

### ***Claim Objections***

1. Claims 1-20 are objected to because of the following informalities: an “a” is missing in the phrase “a substrate for microarray”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. It is unclear what is meant by the phrase “vessel-like” shape in claim 1. It is unclear what shape a vessel would have, as vessels come in a variety of shapes and sizes, rendering the claim indefinite.
5. The term “upper part” in claims 3 and 4 is somewhat ambiguous, rendering the claim indefinite. The phrase can be interpreted to mean anything from the top surface, to the top half,

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to anything not including the bottom. This is also applicable to the use of “lower part” in claims 3, 4, 15-17.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 5-9, 12, 15, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Donohue et al [US 5,311,426].

Donohue et al teach a substrate for a microarray comprising a sample fixing part having a planar bottom part (test card), a wall part which rises from a periphery of the bottom part (well wall) and a supporting part that supports the sample fixing part at a predetermined height to make the bottom part horizontal (fig. 2, column 9, lines 52-63).

8. With respect to claim 2, Donohue et al teach a substrate where the sample fixing part is a depression formed in a flat plate, the supporting part is a peripheral wall extending downward from a periphery of the flat plate, and the flat plate is supported by an upper edge of the peripheral wall (fig. 2).

9. With respect to claims 5 and 9, the substrate further comprises a connecting part (figs. 3-4) where a plurality of the units are connected in the horizontal direction through the connecting part (a carousal).

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10. With respect to claims 6 and 12, the substrate further comprises a groove between any two adjacent units (fig. 3). In particular, the groove consist of the space between the cartridges when they are located on the carousal.

11. With respect to claims 7, 8, 15, and 18, the substrate is fixed to a fixing stand having on top thereof a plurality of protrusion parts and depression parts which fits to a lower part of the substrate, where the substrate is fixed to the fixing stand by fitting the lower part of the substrate to one or both of the protrusion and depression parts, enabling arrangement of a plurality of the substrates for microarray in the horizontal direction (fig. 3). It should be noted that the carousal essentially considered as a fixing part for claims 7, 8, 15, and 18, and as a connecting part for claims 5, 6, 9 and 12.

12. Claims 1-4, 7, 16, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Shami [US 4,599,314].

13. With respect to claims 1-2, Shami teaches a substrate for a microarray comprising a sample fixing part having a planar bottom part (wells), a wall part which rises from a periphery of the bottom part (well walls) (figs. 1-2, column 1, lines 55-66) and a supporting part comprising a peripheral wall extending downward from a periphery of the flat plate (vertical end walls) that supports the sample fixing part at a predetermined height to make the bottom part horizontal (figs. 1-2, column 2, lines 30-47).

14. With respect to claims 3-4, the substrate comprises a protrusion part (projections) where when a plurality of the substances are superimposed on one another, the protrusion part is fitted with a lower part of another substrate (fig. 1, column 2, lines 17-29).

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15. With respect to claim 7, 16, 17, where the substrate is fixed to a fixing stand (cover) having on top thereof a plurality of protrusions (projections), which fits to a lower part of a substrate (fig. 2, column 3, lines 3-30)

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 3,4, 10, 11, 13, 14, 16, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donohue et al [US 5,311,426] in view of Shami [US 4,599,314].

With respect to claims 3 and 4, Donohue et al teach a substrate as discussed above. Donohue et al do not teach a substrate comprising a protrusion part. Shami, however, does teach a substrate comprising a protrusion part (projections) where when a plurality of the substances are superimposed on one another, the protrusion part is fitted with a lower part of another substrate (fig. 1, column 2, lines 17-29). Shami further teaches that this arrangement allows several specimen dishes to be stacked in a vertically superimposed relationship. Therefore it would have been obvious for the substrate of Donohue et al to comprise protrusions, as suggested by Shami, in order to stack several specimen dishes in a vertical superimposed relationship.

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18. With respect to claims 10 and 11, Donohue et al teaches that the substrate further comprises a connecting part (figs. 3-4) where a plurality of the units are connected in the horizontal direction through the connecting part (a carousal).

19. With respect to claims 13 and 14, Donohue et al teach that the substrate further comprises a groove between any two adjacent units (fig. 3). In particular, the groove is considered to be the space between the cartridges while they are located on the carousal.

20. With respect to claims 16-17 and 19-20, the substrate is fixed to a fixing stand having on top thereof a plurality of protrusion parts and depression parts which fits to a lower part of the substrate, where the substrate is fixed to the fixing stand by fitting the lower part of the substrate to one or both of the protrusion and depression parts, enabling arrangement of a plurality of the substrates for microarray in the horizontal direction (fig. 3). It should be noted that the carousal essentially considered as a fixing part for claims 7, 8, 15-20, and as a connecting part for claims 5, 6 and 9-14.

### ***Conclusion***

21. No claims are allowed.

The following references are also cited as art of interest: Thorne [US 4,154,795], Leighton [US 6,136,592], Manns [US 5,679,310], Butz et al [US 4,292,273], Bordenkircher et al [US 6,514,750].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson Yang whose telephone number is (571) 272-0826. The examiner can normally be reached on 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V Le can be reached on (703) 305-3399. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson Yang  
*Nelson*  
Patent Examiner  
Art Unit 1641

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03/05/04